

## PATENT SPECIFICATION



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## PROVISIONAL SPECIFICATION

## Improvements in Sash Windows

- (A communication from ERNST GOHNER AKTIENGESELLSCHAFT TÜREN-UND FENSTERFABRIK, of Hegibachstrasse 47, Zurich, Switzerland, a Swiss Corporation).
- I, HENRY EDWARD DIXON, a British Subject, of the firm of W. H. Beck & Company, Chartered Patent Agents, of Morley House, 26/28, Holborn Viaduct, London, E.C.1, do hereby declare the nature of this invention to be as follows:—
- The present invention relates to a sash-window.
- According to the invention the window sash is provided with at least one locking device comprising one or more catches pivotally mounted on the window sash and releasably engaging when the window is closed a corresponding counterpart provided on the window frame.
- The lower sash member is guided in the well-known manner in guideways provided in the side frame by means of axially movable lugs. The lower sash bears in closed position laterally and at the lower end against the window frame and at the top either against the lower bar of the upper sash member or against a so-called impost. On each of the side bars of the lower sash an L-shaped metal rail is secured, which carries a locking device with two catches. Each of these catches is rotatably mounted on a pin supported by a casing which is secured to the metal rail. In the closed position of the lower sash each catch engages a reel serving as counterpart and rotatably mounted in a suitable casing which is inserted in the window frame, whereby the lower reel is engaged from below by the one catch and the upper one from above by the other catch. The journalled end of each catch is radially extended and provided with a radial slot therein, which is engaged by lugs on upper and lower rods slidably guided along the aforesaid metal rail and releasably coupled with racks between which a pinion is located to engage the racks at two diametrically opposite points. The pinion and racks are enclosed in a casing but a hole is provided therein whereby a square-headed wrench may be passed into a corresponding central hole in the pinion in order to rotate the latter. Upon rotation of this pinion the two racks and the upper and lower rods coupled therewith are shifted and in consequence the catches are swung into or out of the locking position. In locking position the catches grip the reels but the latter constitute no obstacle to the inwardly swung catches when the sash is to be raised. The shape of the catches is such, that by their gradual engagement with the reels the sash is finally fixed to the window frame and a tight seal is effected. With locked catches it will be impossible to raise the sash from outside.
- Instead of two locking devices, a single one may be arranged, for example either on the top or bottom bar of the sash. Each locking device may also comprise only one catch or more than two in accordance with the size of the sash. The arrangement of the locking devices on a metal rail which is secured to the side bar of the sash presents the advantage that the mounting and removal of the locking devices is considerably easier and that after removing said rails from the sash all parts of the devices are easily accessible.
- Dated this 25th day of August, 1939.  
W. H. BECK & CO.,  
Chartered Patent Agents,  
Morley House, 26/28, Holborn Viaduct,  
London, E.C.1.

## COMPLETE SPECIFICATION

## Improvements in Sash Windows

- (A communication from ERNST GOHNER AKTIENGESELLSCHAFT TÜREN-UND FENSTERFABRIK, of Hegibachstrasse 47, Zurich, Switzerland, a Swiss Corporation).
- I, HENRY EDWARD DIXON, a British Subject, of the firm of W. H. Beck & Company, Chartered Patent Agents, of Morley House, 26/28, Holborn Viaduct, London, E.C.1, do hereby declare the

nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

5 This invention relates to sash windows of the kind comprising a lower movable section which in the opening of the window is moved outwards and upwards to a position in front of a stationary upper  
10 section and has for its object to provide a device for locking the lower section in the closed position.

Such locking device according to the present invention comprises hook-shaped  
15 catches pivotally mounted on a bar of the lower section and interconnected for simultaneous operation in opposite directions by an operating member whereby on  
20 actuation of said member the catches are thrown into and out of engagement with rollers rotatably mounted in the window frame.

In the accompanying drawing:—

Figure 1 is a side view of the locking  
25 device viewed from the right of Figure 2.

Figure 2 is a side view viewed from the left of Figure 1.

Figure 3 shows a vertical section through the lower part of the window and

30 Figure 4 a horizontal section on the line IV—IV of Figure 3.

The sash window shown in the drawings comprises a lower movable section 1 guided in the well-known manner by  
35 rotatable rollers 2 in guideways 3 provided in the side frame. The lower section 1 bears in the closed position at the lower end against the window frame 4 and at the top either against the lower bar of  
40 the upper stationary section 5 or against a so-called impost. On each of the side bars of the lower section 1, on the side facing the window frame 4, an L-shaped metal rail 6 is secured, which carries a  
45 locking device with two catches 7 and 7<sup>1</sup>. Each of these catches is rotatably mounted on a pin 9 supported by a casing 8 which is secured to the rail 6. In the closed position of the lower section 1,  
50 each catch engages a roller 10 rotatably mounted in a casing 11 inserted in the window frame 4, whereby the lower roller is engaged from below by the catch 7 and the upper one from above by the catch 7<sup>1</sup>.  
55 The journalled end of each catch is radially extended and provided with a radial slot 12 therein, which is engaged by lugs 13 on upper and lower rods 14 and 15 slidably guided along the metal rail 6 and coupled with racks 16 and 17 between  
60 which a pinion 18 is located to engage the racks at two diametrically opposite points. The pinion 18 and racks 16, 17 are enclosed in a casing 19 with a hole provided

therein whereby a square ended key may  
65 be passed into the corresponding central hole 20 of the pinion 18 in order to rotate the latter. Upon rotation of this pinion the two racks 16 and 17 and the rods 14 and 15 coupled therewith are shifted and  
70 in consequence the catches 7 and 7<sup>1</sup> are swung into or out of the locking position in which the catches grip the rollers 10. The shape of the catches 7, 7<sup>1</sup> is such, that by their gradual engagement with the  
75 rollers 10 the section 1 is pressed against the window frame 4 and a tight seal is effected. With the catches locked it will be impossible to raise the section from outside.  
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Each locking device may comprise more than two catches in accordance with the size of the section. The arrangement of the locking devices on a metal rail which is secured to the side bar of the  
85 movable section presents the advantage that the mounting and removal of the locking devices is considerably easier and that after removing the rails from the section all parts of the devices are easily  
90 accessible.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim  
95 is:—

1. A locking device for a sash window of the kind hereinbefore referred comprising hook-shaped catches pivotally mounted on a bar of the lower section and interconnected for simultaneous operation in opposite directions by an operating member whereby on actuation of said member the catches are thrown into and out of engagement with rollers rotatably  
105 mounted in the window frame.

2. A locking device as claimed in claim 1 characterised in that the catches are mounted on rails detachably secured to the side bars of the lower section.  
110

3. A locking device as claimed in claims 1 and 2 characterised in that the catches are operated in opposite directions by the rotation of a pinion meshing with racks that are coupled to rods slidably mounted  
115 on the side rails and carrying lugs engaging slots in the catches.

4. A locking device for sash windows of the kind hereinbefore referred to constructed and adapted to operate substantially as hereinbefore described with reference to the accompanying drawings.  
120

Dated this 11th day of September, 1940.

W. H. BECK & CO.,  
Chartered Patent Agents,  
Morley House, 26/28, Holborn Viaduct,  
London, E.C.1.

[This Drawing is a reproduction of the Original on a reduced scale.]

